

REMARKS

Claims 14-26 were examined in the Office Action mailed November 9, 2006.

Claims 14-23 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent Publication No. US 2003/0066509 A1 ("Shafer") (issued as U.S. Patent No. 6,725,838 B2).

Claims 24-26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Shafer, in view of U.S. Patent Publication No. US 2002/0083920 A1 ("Konig").

The Applicants respectfully submit the foregoing amendments and following remarks in response to the November 9, 2006 Office Action.

The Invention Recited In Claim 14, As Amended. The Applicants have amended claim 14 to incorporate the limitations of its dependent claim 18, and canceled claim 18 without prejudice. As amended claim 14 recites, *inter alia*, an internal combustion engine with a fuel injection device with an injection nozzle having a nozzle needle and a plurality of injection bores, wherein "the nozzle needle is arranged to permit fuel injection selectively through at least two separate groups of said injection bores," the operating stroke of the nozzle needle is controlled as a function of piston position and/or engine operating point, and "the operating stroke of the nozzle needle is controlled by the control unit to form an unstable cavitating flow in the injection bores." The Specification describes the benefits of such operation, as well as an example implementation, *see, e.g.:*

In a further refinement of the invention, an operating stroke of the nozzle needle of the injection nozzle can be set in such a way that an unstable cavitating flow is formed in

the injection bores of the injection nozzle. Preferably, during the preinjection and/or postinjection, the fuel is injected intermittently in the form of small part quantities. Accordingly, owing to the variable setting of the operating stroke of the nozzle needle of the injection nozzle, in the case of each preinjection or postinjection part quantity injected into the combustion space, the atomization of the respective fuel jet in the combustion space can be reinforced, so that a wall accretion of fuel in the cylinder, which, for example, rises continuously in the case of a lower gas pressure and lower temperature in the cylinder, is minimized. Thus, according to the invention, the range of each part quantity up to a combustion space wall is limited and an intensified break-up and evaporation of the injection jet or of the part quantity, particularly with an increasingly later start of injection, are achieved.

Present Specification at ¶ [0011].

The Shafer Reference. The Applicants respectfully traverse the pending § 102(b) and § 103(a) rejections based on Shafer, on the ground that this reference fails to disclose or suggest all of the features of the present invention recited in pending claim 14 and its dependent claims.

In the November 9, 2006 Office Action, claim 18 (now incorporated into claim 14) was rejected with only a copy of the language of the claim being recited, and the addition of the Shafer electronic control module label “(17)” inserted into the recited claim 18 language, next to the claim’s “control unit.”

As a first matter, the Applicants note that under 37 C.F.R. § 1.104(c)(2), “[w]hen a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied upon must be designated as nearly as practicable.” The Applicants respectfully submit that the rejection of claim 18 does not meet the standard set by the Regulations, nor the objective of efficient and fair examination set forth in the MPEP: “The goal of examination is

to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply at the earliest opportunity.” MPEP § 706.

The Applicants respectfully submit that the mere identification of an electronic control module by its reference label has not provided the Applicants with any identification of how this Shafer component discloses the unique cavitation-based operation of the invention recited in claim 18. Accordingly, the Applicants have not been provided the required § 104/MPEP § 706 opportunity to understand the basis of the rejection and develop an appropriate response.

For this reason, the Applicants respectfully submit that in the event a further Office Action is issued in this case, it would not be proper to make the Office Action final.¹

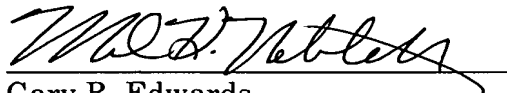
Turning to amended claim 14 and Shafer, the Applicants respectfully submit that this reference fails to disclose or suggest claim 14’s feature “the operating stroke of the nozzle needle is controlled by the control unit to form an unstable cavitating flow in the injection bores.” Shafer discloses only an electronic control module 17 which controls the actuation of fuel injector 30’s first and second actuating devices 32, 42 – indeed, Shafer notes that these energizations are made by module 17 “*in a conventional manner.*” Shafer at ¶ [0034] (emphasis added).

¹ The Applicants further note that by merely incorporating the limitations of previously considered claim 18 into claim 14, it cannot be maintained that the Applicants’ amendment necessitated a new grounds of rejection. Thus, a next Office Action could not be made final for this reason, as well.

Account No. 05-1323 (Docket #095309.57216US).

January 25, 2007

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Gary R. Edwards", written over a horizontal line.

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